

1.1.2.2 High Sensitivity Thermal Sensors

2mW to 12W

Features

- Very low noise and drift to measure very low powers and energies
- Broadband and P absorbers for CW and short pulses
- Up to 12W
- Spectrally flat

12A / 12A-P



Model	12A	12A-P
Use	General purpose	Short pulses
Absorber Type	Broadband	P type
Spectral Range μm	0.19 - 20	0.15 - 8
Aperture mm	$\varnothing 16\text{mm}$	$\varnothing 16\text{mm}$
Power Mode		
Power Range	2mW - 12W	2mW - 12W
Power Scales	12W to 20mW	12W to 20mW
Power Noise Level	50 μW	50 μW
Thermal Drift (30min) ^(a)	40 - 150 μW	40 - 150 μW
Maximum Average Power Density kW/cm ²	25	0.05
Response Time with Meter (0-95%) typ. s	3	3.5
Calibration Uncertainty $\pm\%$	1.9	1.9
Power Accuracy $\pm\%$	3	3
Linearity with Power $\pm\%$	1.5	1.5
Energy Mode		
Energy Range	1mJ - 30J	1mJ - 30J
Energy Scales ^(b)	30J to 30mJ	30J to 30mJ
Minimum Energy mJ	1	1
Maximum Energy Density J/cm ² ^(c)		
Pulse rate:		Single
<100ns	0.3	10
0.5ms	5	10
2ms	10	10
10ms	30	10
Cooling	convection	convection
Fiber Adapters Available (see page 118)	ST, FC, SMA, SC	ST, FC, SMA, SC
Weight kg	0.35	0.35
Compliance	CE, UKCA, China RoHS	CE, UKCA, China RoHS
Version	V1	
Part number	7Z02638	7Z02624
Note: (a)	Depending on room airflow and temperature variations	
Note: (b)	For the 30mJ energy scale measurements it is recommended to use the screw on barrel supplied with the sensor to protect from direct air flow	
Note: (c) For P type and shorter wavelengths derate maximum energy density as follows:	Wavelength	Derate to value
	1064nm	Not derated
	532nm	Not derated
	355nm	40% of stated value
	266nm	10% of stated value
	193nm	10% of stated value

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